

Late Summer Invertebrates, Mostly Insect, of the Alaskan Arctic Slope

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The Alaskan Arctic slope is that part of Alaska draining to the Arctic Sea and is a treeless area. August 19 to September 5, 1948, a brief visit was paid to this region (Entomological News, December 1948, 59:253-257).¹ Snow fell during most of the nights and the temperatures were generally in the 30°'s and 40°'s Fahrenheit. Most of the conspicuous insects had disappeared this late in the season and the present records reflect mainly a sampling of the fauna remaining active at the time. The collections were made chiefly at Pt. Barrow (Latitude 71° 21' North) and at Anaktuvuk Pass on the north front of the Brooks Range in the Endicott Mountains (Latitude 68° 05' North). From the Alaskan Arctic slope there are very few records and these mostly by Riley (1884, United States Polar Expedition) and Johansen, Hewitt, et al. (1918-22, Canadian Arctic Expedition of 1913-18).

The records are listed below by phyla, classes and orders of the animals involved, beginning with Annelida and ending with Arthropoda.² They are of adults unless otherwise stated.

ANNELIDA

PISCICOLIDAE: A specimen of the leech, *Ottonia* or near, was taken from the side of an Arctic herring at Anaktuvuk Pass.

¹ By courtesy of the Office of Naval Research and the Arctic Research Laboratory.

² I am much obliged to the following for identifying these specimens, most of the identifications of which were arranged through the kind co-operation of Drs. E. A. Chapin, C. F. W. Muesebeck and Waldo Schmidt: H. E. Anthony, J. Bequaert, R. E. Blackwelder, L. L. Buchanan, H. W. Capps, T. D. Carter, O. L. Cartwright, F. A. Chace, R. V. Chamberlin, W. J. Clench, J. C. Crawford, P. F. Darlington, W. J. Gertsch, G. Glance, C. T. Greene, A. B. Gurney, K. V. Krombein, H. Morrison, M. C. Myer, P. W. Oman, J. A. G. Rehn, W. E. Ricker, H. H. Ross, L. M. Russell, C. W. Sabrosky, R. J. Sailer, A. Stone, H. K. Townes.

OLIGOCHAETA: Oligochaete worms were taken from the tundra debris of lemming runways at Pt. Barrow.

MOLLUSCA

GASTROPODA

Valvata lewisi helicoidea Dale. Anaktuvuk. At shore of small lake and hibernating to a depth of 6-8 inches in the tangle of roots and humus along a stream bed. "Alaska, Yukon, British Columbia" (Clench).

Lymnaea randolphi Baker. Anaktuvuk. Young specimens at lake shore and adults scattered dead on tundra or at lake shores. Largest species here. "Alaska, Yukon, British Columbia" (Clench).

Vertigo modesta Say. Anaktuvuk. At base of *Salix* in humus. "New England to California and north" (Clench).

Succinea strigata Pfr. Anaktuvuk. Common on tundra. One specimen was crawling August 27 amid small patches of snow on the tundra near a small lake. Also specimen at Umiat in *Alnus* thicket. "Greenland to Bering Strait" (Clench).

PELECYPODA

Sphaerium stamineum Conrad. Anaktuvuk. At shore of small lake. "Northern U. S. and north through Canada" (Clench).

ARTHROPODA

ARACHNIDA

Spiders are numerous and important animals of the tundra. The distribution of the species below was kindly given by the identifier, Dr. Gertsch, and may be seen to be primarily holarctic.

Lycosidae

Pardosa tesquorum Odenwall—Anaktuvuk. A Siberian species.

Pardosa varians Gertsch—Anaktuvuk. Known from Northwestern Canada.

Pardosa lapponica Thorell?—Anaktuvuk. A European species.

Pardosa tristis Thorell—Anaktuvuk. Known from the Rocky Mountains.

Tarentula pictilis Emerton?—Anaktuvuk.

Thomisidae

Xysticus britcheri Gertsch—Anaktuvuk. Described from New York and hitherto known only from one or two specimens.

Thanatus formicinus Clerck—Anaktuvuk. A European species.

Gnaphosidae

Gnaphosa orites Chamberlin—Umiat (Per Scholander). A European and probably Siberian species.

Dyctynidae

Dictyna sp.—Anaktuvuk.

Argiopidae

Tetragnatha extensa Linnaeus—Anaktuvuk. A European and Siberian species.

Aranea sericata Clerck—Anaktuvuk, two spiders in neat cocoon with dead leaves attached. A European and Siberian species.

Linyphiidae

Coryphaecolana sp.—Pt. Barrow.

Hilaira curvitaris Sorensen—Pt. Barrow, common on tundra. Known from Northern Canada and Greenland.

"*Erigone*" *chilkatensis* Chamberlin and Ivie?—Anaktuvuk, under small rocks with south exposure on island in river bed.

Erigone sibirica Kulczynski?—Anaktuvuk. A Siberian and European species.

Erigone psychrophila Thorell—Pt. Barrow, among grass and herbs on tundra.

"*Erigone*" sp. A—Pt. Barrow, crawling slowly on hillock of tundra which had a surface temperature of 36°, with patches of snow in vicinity.

"*Erigone*" sp. B—Anaktuvuk, under small rocks with south exposure on island in river bed.

CHILOPODA

Dr. R. V. Chamberlin has recently described the following (ENT. NEWS, 1949, 60: 12-15):

Lithobiidae

Arebius integrior Chamberlin—Anaktuvuk, tundra margin of river. The type and only known locality.

Escimobius cryophilus Chamberlin—Anaktuvuk. The type and only known locality.

Oabius sp.—Whitehorse, Yukon Terr. Under loosely buried wood in sandy soil with second growth pine beside the airport.

Schendylidae

Escaryus paucipes Chamberlin—Anaktuvuk Pass, valley tundra. Previously known only from Haines, Alaska.

INSECTA

COLLEMBOLA

Collembola are of the utmost importance to many forms of life and, with mites, are probably the most numerous animals of the tundra. The study of the specimens by Miss Glance is not yet completed and there are a number of species in addition to the three below.

Entomobryidae

Folsomia spp.—Pt. Barrow, in tundra.

Isotoma sensibilis—Pt. Barrow, in tundra.

Poduridae

Achorutes sensilis Folsom—Pt. Barrow, in tundra.

Orthoptera

Melanoplus m. mexicanus (Sauss.)—Fairbanks, September 7, in weedy lot. "The widely distributed lesser migratory locust. About a peripheral record" (Rehn).

Chorthippus longicornis (Latr.)—Fairbanks, September 7, in weedy lot. "A holarctic species ranging from North Europe to Eastern Canada and into the more boreal parts of the U. S." (Rehn).

THYSANOPTERA

Thripidae

Thrips sp. were taken August 25 and 30 at Anaktuvuk, on the former date on galls of *Salix*, on the latter from tundra at base of *Salix*. Also September 1 at Pt. Barrow from tundra with surface temperature of 36° F.

CORRODENTIA

Corrodentia may be added to the list of "snow insects," insects to be found walking actively or tunnelling in snow, on the basis of several taken at Anaktuvuk. One was taken while burrowing into the snow which at the time had a surface temperature of 28° F., the air temperature being 32° F.

MALLOPHAGA

Specimens of the common species of eider ducks and murres at Pt. Barrow which were briefly examined appeared to be free of Mallophaga. This was also true of Greater Scaup and Old Squaw at Anaktuvuk. On a Golden Plover at Barrow a single young nymph of a species of *Mysidca* or some related genus was taken.

Trichodectidae

Trichodectes mephitidis Osborn. On Arctic weasel, *Mustela arctica arctica* (Merriam). Anaktuvuk. "Probably new host and new northern Alaskan record." "Known from *Mustela noveboracensis*, *Mephitis mephitica* and *Spilogale interrupta*" (Bequaert).

ANOPLURA

Echinophthiriidae

Antaretophthirus trichechi Boheman. On Pacific walrus, *Odobenus divergens* (Illiger), Pt. Barrow. "Known from walrus in Greenland, Spitzbergen and the coast of N. E. Siberia" (Bequaert).

HOMOPTERA

Psyllidae

Psylla alaskensis Ashm.—Umiat.

Psylla sinuata Crawford.—Anaktuvuk, along river margin.

Trioza sp., near *varians* Crawford.—Anaktuvuk.

Aphidae

Prociphilus sp., probably apterous. Anaktuvuk.

Coccidae

Puto sp., probably undescribed. Anaktuvuk, base of dwarf *Salix*.

HEMIPTERA

Anthocoridae

Anthocoris melanocerus Reuter. A pair in copula, Umiat, in *Alnus* thicket and a specimen at Anaktuvuk, at base of *Salix*.

PLECOPTERA

Capniidae

Capnia oenone Neene—Anaktuvuk, males and females crawling on stem of dwarf *Salix* on island in stream and walking on snow with surface temperature of 29° F. "Previously known only from southern British Columbia" (Ricker).

Nemouridae

Nemoura trispinosa Class. Anaktuvuk, on dwarf *Salix* and on rocks in river.

TRICHOPTERA

Limnephilidae

Grensia praeterita (Walk.) Anaktuvuk, the common trichopteran at this time.

Genus uncertain. "May be *Grensia* but latter is not yet described" (Gurney). Anaktuvuk, larvae August 26 in pool (39° F.).

LEPIDOPTERA

Lymantriidae

Byrdia sp.—Anaktuvuk, August 27. A large, densely hairy larva.

Phalaenidae

Species undet. Umiat, in *Alnus* thicket.

DIPTERA

SUBORDER NEMATOCERA

Tipulidae

Tipula sp.—Anaktuvuk, large larvae in pools, one at 39° F.; Pt. Barrow, August 21.

Culicidae

Aedes sp.—Whitehorse, Yukon Terr., August 18; Anaktuvuk, August 27. Mosquitoes were mostly absent, sluggish and non-biting. Unidentified males, Pt. Barrow, August 21.

Bibionidae

Bibio sp.—Anaktuvuk, larvae August 28.

Fungivoridae

Lycoria sp.—On lab window at Barrow, in *Alnus* thicket at Umiat and about *Salix* at Anaktuvuk. Tiny and midge-like.

Boletina sp.—Umiat, in *Alnus* thicket.

Phronia sp.—Anaktuvuk, flying in lee of river bank August 25. Appearance suggesting *Drosophila*.

Rhymosia sp.—Anaktuvuk.

Melusinidae

Melusina sp.—Pt. Barrow, Anaktuvuk, superficially suggesting spindly tipulids and moderately large.

Simuliidae

Simulium arcticum Mall.—Anaktuvuk, becoming a nuisance at lake shore, noon, August 27.

Tendipedidae

Spaniotoma sp.—Pt. Barrow, and the commonest midge at Anaktuvuk. They were taken walking on snow which had a surface temperature of 28° F., the air temperature being 32° F., and floating on pools. Larvae were taken at Pt. Barrow in snowy owl pellets consisting of fur and bones of *Dicrostonyx r. rubricatus* (Rich.). In addition Collembola lived in this medium. Larvae here on the tundra were also "looping" over the wet soil which had a temperature of 36° F., snow patches in the vicinity having a temperature of 29° F. and tiny pools of 36° F. Larvae at the very tip of Pt. Barrow, a low sandspit, remained active in the top inch of tundra, beneath which the soil was partially frozen. Other larvae at Anaktuvuk were active in a pool beside the river.

Diamesa sp.—Anaktuvuk, midges resembling *Spaniotoma* but not taken as often. Found walking on snow with a surface temperature of 28.5° F.

Empididae

Bicellaria pilipes Loew—Anaktuvuk, resembling the common *Spaniotoma* but slightly heavier and with darker wings.

Phoridae

Megaselia dubitata Mall—Anaktuvuk, *Drosophila*—like except for larger wings and much smaller than the *Bicellaria*.

SUBORDER CYCLORRHAPHIA

Calliphoridae

Phaenicia sp.—Pt. Barrow, larvae on or in an Eskimo dog carcass August 22 which had lain on the tundra near the sea for some three or so months but which was decomposing very slowly in the cold climate.

Calliphora terrae-novae Macq.—Whitehorse, Yukon Terr., August 18 at window in house.

Cynomyopsis cadaverina (R.D.)—Pt. Barrow, pupae from dog carcass of *Phaenicia* above.

Borellus atriceps Zett.—Pt. Barrow, pupae from dog carcass of *Phaenicia* above from which imagoes emerged on the tenth day following (August 31).

Protophormia terrae-noxae (R. D.)—Pt. Barrow, September 1-5, appearing at the inside of windows of Arctic Research Laboratory; probably brought in as immatures on caribou skins. Anaktuvuk, August 26.

Larvaevoridae

Genus and species?, near *Alaskophyto*—Anaktuvuk.

Scopeumatidae

Scopeuma nubiferum (Coq.)—Pt. Barrow, dead in pool, August 22.

Probably species of Scopeumatidae (immature).—Anaktuvuk.

Muscidae

Alliopsis obesa Mall.—Anaktuvuk, alighting twice momentarily on snow bank covering permanent ice in bend of river.

Genus and species?—Anaktuvuk, small muscid alighting on jacket as if seeking place for oviposition.

Hylemya sp.—Whitehorse, Yukon Terr., August 18, at window of building.

ACALYPTRATAE

Piophilidae

(?) [*Allopiophila*] sp. "Possibly a new genus and new species. It seems near *A. aterrima* (Becker), described from Novaya Zemlya" (Sabrosky). Pt. Barrow, on turfy tundra August 22 and appearing from carcass of small duck September 2 at tip of sandspit of the point. Beneath the duck the ground was covered with frost crystals and maggots here were contracted and immobile. Imagoes appeared 24 hours later from the carcass in the laboratory.

Heleomyzidae

Neoleria tibialis (Zett.), at least in sense of authors—Anaktuvuk, of *Drosophila* size but more slender.

Neoleria sp.—Pt. Barrow, small, dark and compact imagoes under the Eskimo dog carcass described under *Phaenicia* above; sluggish in the near-freezing temperature, ice and snow on the tundra not thawing (August 22).

Oecotheca aristata Mall.—Anaktuvuk.

Sphaeroceratidae (Borboridae)

Leptocera fontinalis (Fall.).—Pt. Barrow, small, compact and dark flies appearing in the mess hall sparingly at the dining tables. Numbers were found dead in a 30 gal. can of cornmeal. Not a pest and reported to be present only in 1948.

Copromyza sp.—Pt. Barrow, with *Leptocera* above, and under dog carcass of *Phaenicia* et al. above.

Agromyzidae

Agromyza immaculata Coq.—Anaktuvuk, tiny, with long wings, flying in lee of river bank.

Agromyza sp.—Anaktuvuk, as above.

COLEOPTERA

Carabidae

Curtonatus sp.—Anaktuvuk, palest carabid taken.

Cryobius sp.—Anaktuvuk, apparently the smallest and commonest carabid here.

Sterrocerus haematopus Dej.—Anaktuvuk, iridescent and moderately sculptured.

Lyperopheres agonus Horn—Anaktuvuk, the largest and most sculptured carabid taken.

Dytiscidae

Hydroporus sp. in pool (39° F.), Anaktuvuk, August 26.

Silphidae

Silpha lapponica Hbst.—Anaktuvuk, larva with mites numerous and attached to ventrum.

Staphylinidae—Tachyporinae

Larvae in tundra, Pt. Barrow, August 20–23.

Staphylinidae—Staphylininae

Larva (unident.) in tundra, Anaktuvuk.

Micralymma brevilingue Schiodte—Pt. Barrow, September 1.

Tachinus apterous Maklin. In tundra, Pt. Barrow, September 1 (first record from mainland).

Staphylinidae—Omaliinae

Larvae (unident.) in tundra, Pt. Barrow, including very tip of Point, September 1-2.

Elateridae

Cryptohypnus sp. (prob. *nocturnus* Esch.). Larva, Anaktuvuk, August 25.

Curculionidae

Lepidophorus lineaticollis Kby.—Anaktuvuk, in soil near Eskimo racks of caribou meat, August 25.

HYMENOPTERA

Tenthredinidae

Euura sp.—Anaktuvuk, in vicinity of gall of *Salix*.
Allantinae larva—Anaktuvuk.

Ichneumonidae

Promethes elongatus (Prov.)—Whitehorse, Yukon Terr., August 18.

Stenomacrus brevipennis (Ash)—Pt. Barrow, among grass and herbs August 20.

Stenomacrus sp.—Anaktuvuk, crawling through thin vegetation on island in stream bed, August 26.

Atractodes sp.—Anaktuvuk.

Diapriidae

Xenotoma sp.—Anaktuvuk.

Formicidae

Leptothorax acervorum canadensis Provancher—Umiat (Per Scholander). Nearctic equivalent of a palearctic species.

Apidae

Bombus moderatus Cr.—Anaktuvuk, August 27.

Vespidae

Vespa norvegica albida Sladen—Anaktuvuk.